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an associated account selected by the electronic device, or otherwise validate access through fast passage gate 650.

In some embodiments, measures may be taken to ensure that an electronic device does not falsify location information such that location server 620 cannot accurately deter- 5 mine the location of the electronic device. In the fast passage transportation terminal application, a user of the electronic device may attempt to alter the content of the RESPONSE message (e.g., RESPONSE message 232) with a UWB radio, thus allowing the user of the electronic device to enter 10 into the transit platform area of environment 600 without payment or permission.

To prevent such deceptive and/or fraudulent activity, secure ranging may be used to prevent manipulation of the RESPONSE message, according to some embodiments. A 15 secure transaction subsystem within the electronic device (e.g., secure transaction subsystem 370 of FIG. 3) may include a hard-coded secure key used to encrypt messages sent to a UWB radio. In some embodiments, the hard-coded secure key cannot be imitated, altered, or mimicked by, for 20 example, the electronic device. The UWB radio may be made aware of the secure key (or a list of possible secure keys) via a database accessible by location server 620 or the UWB radio. The UWB radio may decrypt a message received from electronic devices within environment 600. In 25 some embodiments, secure ranging can be combined with video imaging techniques to detect fraudulent activity. For example, a non-paying device's location (as determined by secure ranging) can be mapped to a video image of the non-paying device (and associated user) crossing fast pas- 30 sage gate 650, thus providing visual identity.

FIG. 7 illustrates an example flowchart 700 of operations for an electronic device to select an appropriate credential in a fast passage gate application, according to some embodiments. The operations depicted in flowchart 700 may be 35 performed by an electronic device such as any/all of electronic devices 101-104 of FIG. 1, electronic device 201 of FIG. 2, or electronic device 300 of FIG. 3. It is to be appreciated that not all operations may be needed to perform additional or alternate operations may be performed. Further, some of the operations may be performed concurrently, or in a different order than shown in FIG. 7.

At 702, the electronic device receives a "POLL" message from a UWB radio. The POLL message may be an embodi- 45 ment of POLL message 230 of FIG. 2.

At 704, the electronic device responds to the UWB radio with a "RESPONSE" message, which may be an embodiment of RESPONSE message 232 of FIG. 2. A "FINAL" message, which may be an embodiment of FINAL message 50 234 of FIG. 2, may also be received by the electronic device from the UWB radio.

Using the information gathered from the message exchange in operations 702 and 704, the UWB radio may determine time of flight (ToF) measurements to be used to 55 determine or estimate the location of the electronic device within an environment (e.g., environment 600 of FIG. 6), such as by using triangulation or trilateration. In some embodiments, the POLL, RESPONSE, and FINAL messages may be encrypted based at least in part on an encryp- 60 tion key stored in a secure subsystem of the electronic device and known to the UWB radio. The UWB radio may send the ToF measurement to a location server (e.g., location server 120 of FIG. 1, location server 220 of FIG. 2, or location server 400 of FIG. 4) so that the location server may determine the location of the electronic device via, for example, triangulation (or trilateration).

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At 706, the electronic device may receive location data from the location server. The location data may be an embodiment of location data 250 of FIG. 2. The location data may have any format, including formats described above with respect to FIG. 2.

At 708, the electronic device may determine if it is near a fast passage gate, such as fast passage gate 650 of FIG. 6. In some embodiments, the location data received from the location server (at 706) may be a coordinate that provides a relative location of the electronic device within the environment. The electronic device's location map module, such as location map module 324 of FIG. 3, may have one or more locations of the fast passage gate within the environment stored in memory. Based on the stored locations of the fast passage gate, the electronic device may determine if it is within a distance less than a predetermined distance from the fast passage gate. In some embodiments, the location data received from the location server may indicate that the electronic device is within a predetermined distance/range from the fast passage gate. If the electronic device does not determine it is not within the predetermined distance/range of the fast passage gate, the electronic device may continue to listen for POLL messages at 702.

At 710, if the electronic device determines it is near the fast passage gate, the electronic device may determine a credential to select for a transaction. The credential (e.g., virtual payment card) data may be stored within a secure transaction subsystem on the electronic device such as, for example, secure transaction subsystem 370 of FIG. 3. In some embodiments, the location map module within the electronic device (e.g., location map module 324 of FIG. 3) may have information on the card type or types that are compatible with the fast passage gate and select a credential based at least in part on that information. In some embodiments, the location server may send an indication that the electronic device is near the fast passage gate, in which case the indication can also include the credential type(s) that corresponds to the fast passage gate.

At 712, the electronic device may activate a wireless the disclosure provided herein. In some implementations, 40 radio. In some embodiments, the electronic device may not be able to communicate with the fast passage gate via an NFC radio due to a longer distance between the electronic device and the fast passage gate compared to the distance supported by the NFC radio (e.g., about 4 centimeters). In some embodiments, the electronic device may activate a Bluetooth radio, a WiFi radio, an RFID radio, or other such short- or medium-range radio (e.g., radios 338a-n of FIG. 3) to perform the communication for a transaction between the electronic device and the fast passage gate. In some embodiments, the electronic device selects the credential (e.g., virtual payment card) before crossing the fast passage gate. In some other embodiments, the electronic device may wait until crossing the fast passage gate into the transit platform area before selecting the credential (e.g., virtual payment

> At 714, upon reaching or crossing the fast passage gate, a transaction between the electronic device—using the selected credential (e.g., virtual payment card)—and the fast passage gate is performed. In some embodiments, crossing a virtual line representative of the fast passage gate initiates the transaction, in which, for example, the credential is debited or payment/access validation is otherwise performed. The electronic device can detect crossing the virtual line by determining that its location has changed from a location associated with a general or waiting area of the environment to a location within the transit platform area of the environment, according to some embodiments. In some